Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of Connect America Fund	WC Docket No. 10-90
In the Matter of A National Broadband Plan for Our Future	GN Docket No. 09-51
In the Matter of Establishing Just and Reasonable Rates for Local Exchange Carriers	WC Docket No. 07-135
In the Matter of High-Cost Universal Service Support	WC Docket No. 05-337
In the Matter of Developing an Unified Intercarrier Compensation Regime	CC Docket No. 01-92
In the Matter of Federal-State Joint Board on Universal Service	CC Docket No. 96-45
In the Matter of Lifeline and Link-Up	WC Docket No. 03-109

COMMENTS OF
AVENTURE COMMUNICATIONS TECHNOLOGY, INC.
REGARDING THE CAUSES AND CURES OF PHANTOM TRAFFIC

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SUMMARY

The Commission has expressed grave concerns in this proceeding about the phenomenon of phantom traffic. These comments, along with the three affidavits filed herewith (Attachments 2 through 4), summarize Aventure's experience, as a competitive local exchange carrier ("CLEC") in Iowa, in handling phantom traffic that several interexchange carriers ("IXCs") create via several improper methods of masking the origin of telephone calls. Aventure describes these methods and proposes specific rules that the Commission should adopt to stop phantom traffic.

Aventure has detected four methods that IXCs use to create phantom traffic:

- Failure to populate the Calling Party Number ("CPN") field in signaling data
- Providing false Charge Number ("CN") information in signaling data
- Needlessly routing calls through multiple tandem switches
- Using sham "least cost routing" arrangements

As expressed in the appended affidavits of three Aventure officers, phantom traffic is an unreasonable practice that injures LECs. Aventure proposes three specific actions that the Commission should adopt to address these improper methods:

- Require all IXCs to route traffic in accordance with the Local Exchange Routing Guide (the "LERG")
- Declare that the provision of incomplete or false signaling data and the failure to comply with the LERG are unjust and unreasonable practices in violation of section 201(b) of the Communications Act of 1934, as amended, 47 U.S.C. § 201(b)
- Require all IXCs to file, on an annual basis, sworn declarations by an officer that the company is not providing false or incomplete signaling data

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Aventure Communications Technology, LLC ("Aventure"), by its undersigned counsel, hereby submits its Comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding.[1] Aventure's comments focus on a single topic – a discussion of the causes of phantom traffic, and specific recommendations regarding new Commission rules needed to put a stop to the practice.

I. INTRODUCTION

Aventure is a full-service competitive local exchange carrier ("CLEC") with its business office in Sioux City, Iowa. Aventure provides services to residential users, as well as small and medium-sized businesses in rural Woodbury and Monona County in Iowa, and in the five years since its founding Aventure, has achieved market penetration rates of 20-40% in the rural Iowa markets that it serves. Aventure plans to expand its networks to serve rural areas in South Dakota and Nebraska as well.

Aventure uses state-of-the-art WiMAX broadband networks to provide the complete complement of voice, data and broadband Internet Access services in some of the nation's most underserved rural areas. Aventure has aggressively deployed networks using a non-exclusive, licensed bandwidth in some of the most rural farming communities in the country.

Aventure will focus its comments on a single issue: the causes, and the ways to stop, phantom traffic. During its five years of operations, Aventure has witnessed a number of different tactics employed by some of the largest interexchange carriers ("IXCs") – specifically including Qwest Communications Corp. ("Qwest") and a number of the smaller IXCs, including

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[1] *Connect America Fund*, WC Docket No. 10-90; *A National Broadband Plan for Our Future*, GN Docket No. 09-51; *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135; *High-Cost Universal Service Support*, WC Docket No. 05-337; *Developing an Intercarrier Compensation Regime*, CC Docket No. 01-92; *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45; *Lifeline and Link-Up*, WC Docket No. 03-109, NPRM & FNPRM, FCC 11-13 (rel. Feb. 9, 2011) ("NPRM").

PaeTec Holding Corp. ("PaeTec") – that create phantom traffic in an apparent attempt to evade access charges. As noted below, Aventure and its officers have direct experience with these various tactics, both as a carrier and as individuals receiving calls at their homes in Iowa and Nebraska. In these comments, Aventure will provide real-life examples of three different methods of generating phantom traffic, and will propose regulatory means of stopping them.

II. THE COMMISSION'S RULES SHOULD FOCUS AS MUCH ON CN AND TRUNK ROUTING ABUSE AS FAILURE TO PROVIDE CPN

The NPRM's discussion of phantom traffic, and the proposed rules intended to address the problem, correctly notes that much of the concern over phantom traffic is related to Voice over Internet Protocol ("VoIP") traffic, and that this likely will be a growing concern as more and more voice traffic migrates to VoIP platforms. The phantom traffic method most commonly associated with VoIP traffic involves the failure to generate or transfer Calling Party Number ("CPN") information. See NPRM at ¶ 624. From Aventure's experience, however, the majority of phantom traffic that it receives comes from IXCs that pass traditional voice traffic. This phantom traffic is generated by introducing inappropriate Charge Number ("CN") data in the SS7 data fields, routing toll calls to local trunks, and routing toll calls through wireless carriers.

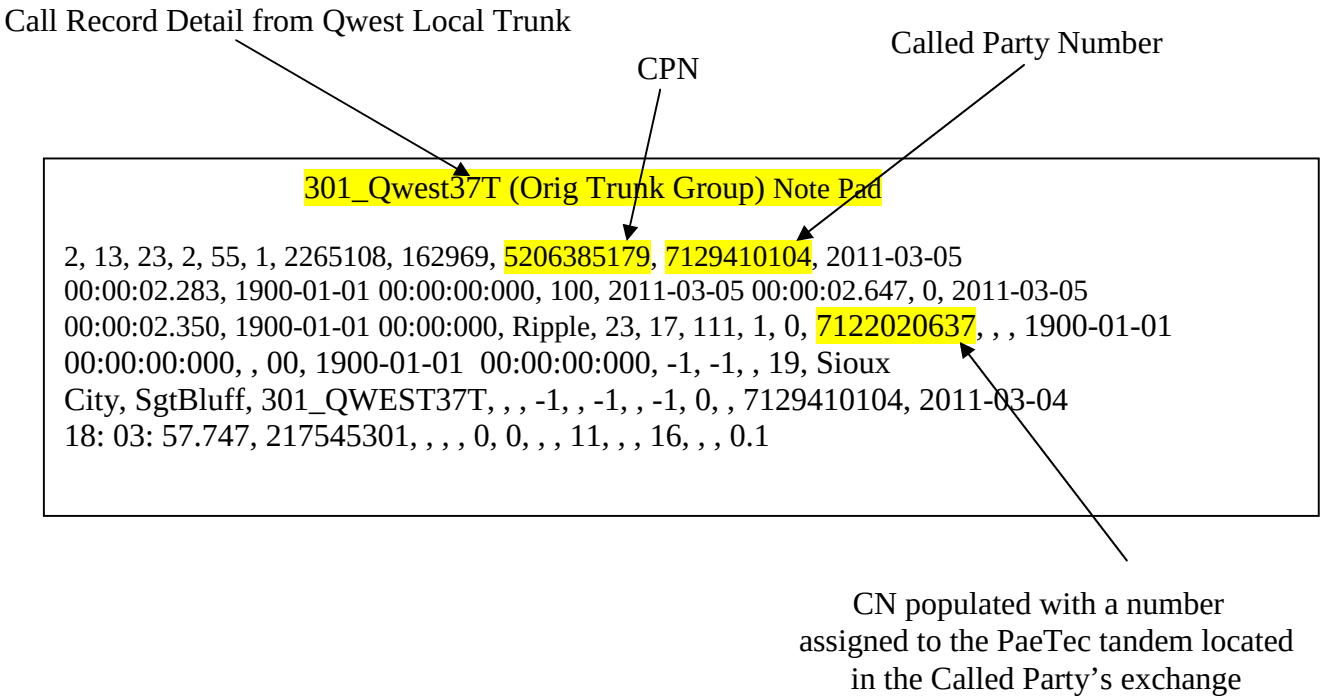
The Commission correctly notes that it must do more than requiring CPN – it must also "prohibit stripping or altering call signaling information." NPRM at ¶ 626. In order to establish effective rules against such unlawful traffic manipulation, however, the abusive practices that some IXCs employ to evade access charges must be specified, and the rule modifications must specifically prohibit that behavior. Below, Aventure describes three common forms of phantom traffic generation that it has experienced. In the following Section, Aventure proposes rule changes that will stop this unlawful conduct.

A. Populating CN Fields to Override the CPN, and Direct Traffic to a Local Trunk.

Most forms of phantom traffic that Aventure experiences all do the same thing – they falsify routing information in order to make long distance calls look like local calls, in order to evade access charges. This conduct harms LECs in two ways: 1) it deprives them of revenue to which they are entitled, and 2) it shifts significant volumes of traffic from toll trunks to local trunks. This latter effect is particularly harmful – by overloading local circuits past their planned capacity, the phantom traffic of IXCs degrades the quality of service by causing circuits to be unavailable and causing calls not to be completed.

One of the most common ways IXCs generate this form of phantom traffic is simply to populate the CN field with a false number that is designed to make the toll call appear to be local call. The Commission, citing a White Paper by Verizon, notes that "when the CN parameter is populated, CN is included in billing records in place of CPN." NPRM at ¶ 631. However, this practice also has consequences to the routing of the calls. Below, Aventure provides as Illustration 1 an annotated copy of a real call detail record ("CDR") generated by Aventure's switch last month. As the copy of the CDR illustrates, the CPN was always included, making it clear that the call was a toll call. However, the call was routed over a Qwest local trunk.

ILLUSTRATION 1: ANALYSIS OF CALL RECORD DETAIL
SHOWING CHARGE NUMBER MANIPULATION



As Illustration 1 demonstrates, PaeTec placed a clearly inappropriate number in the CN field – a number assigned to PaeTec's tandem switch located in the same local exchange as the called party. In so doing, PaeTec ensured that translation software that takes data from the SS7 stream would ignore the CPN – which was correctly included in the signaling data – and instead route to the PaeTec local number as the Charge Number. This is precisely the data manipulation identified in the NPRM and in the Verizon White Paper that the NPRM references.

However, the CDR also makes clear that this call was routed over a Qwest local trunk, despite the fact that the correct CPN was transmitted with the call. Aventure does not know how this routing was effected – whether PaeTec delivered it to the Qwest tandem over its own local interconnection trunks, or whether Qwest routed the traffic in accordance with an agreement it

had with PaeTec. In any event, the damage to Aventure's traffic flows, its ability to perform effective traffic planning and network design, and the degradation of call quality that results from this practice requires that the Commission expressly prohibit falsely routing toll traffic to local trunks.

Aventure appends as Attachment 1 to these comments the first 10 pages of the full Call Detail Record report from which the above entry was taken. As stated in the Affidavit of Aventure CTO Dana Greeno (appended at Attachment 2), this same manipulation of CN data by PaeTec is repeated in almost all of the calls reflected in the CDR.

B. Routing Calls Through Foreign Tandems, and Multiple Routing Through Tandems, In Order to Replace CPN.

Aventure's technologists believe that Qwest and some other IXCs effectively strip data from the SS7 stream by needlessly routing calls through multiple tandems. In the Affidavit of James McKenna, President of Aventure, appended at Attachment 3 hereto, Mr. McKenna discusses what he believes are examples of such unnecessary and manipulative routing. Specifically, Mr. McKenna states that, on his home phone account, he uses a wire line phone and uses Aventure as his long-distance carrier. On several occasions, he received calls that showed a Phoenix, Arizona number on his Caller ID, but that were actually originated from his friend, who lives several miles away in Iowa. Mr. McKenna states his belief that there is no logical or lawful reason to route a call that originates in Onawa, Iowa and terminates in Salix, Iowa through Phoenix. Mr. McKenna states his belief that such routing was performed by Qwest in order to make an intrastate toll call appear to be an interstate toll call, so that Qwest could pay the lower interstate access rates.

C. Sham "Least Cost Routing" Algorithms Routing Through Wireless Carriers and Carriers Engaging In Self Help.

There are instances in which IXCs manipulate traffic to evade payment of access charges that do not involve the failure to transmit, or the falsification of, CPN or similar data . For example, in the attached Affidavit of Bradley Chapman, the CFO of Aventure (Attachment 4 hereto), Mr. Chapman describes instances in which Qwest – the long distance carrier that the Chapmans use in their home service – apparently routed calls through a wireless phone company. There is no logical or lawful reason why Qwest would route traffic in this way. But there is an economic reason – in many parts of the country, local exchange carriers cannot collect access charges for terminating intra-MTA cellular traffic. By routing its traffic through a cellular carrier, it appears that Qwest is simply pursuing another form of access charge evasion, regardless of the fact that it significantly degrades the quality of the calls.

Similarly, in 2006 and 2007, when the disputes between rural LECs and the largest IXCs over access charges began, the IXCs employed different tactics. For example, AT&T was the first and most aggressive IXC in resorting to self-help by simply refusing to pay access charges that it did not agree with. Shortly after AT&T initiated this behavior, Aventure's switch data showed that the volume of traffic terminated from AT&T skyrocketed, while the volume of traffic terminated by Qwest and other IXCs declined proportionately. The traffic data generated by Aventure's switches illustrate that Qwest routed its traffic through AT&T because AT&T was withholding payment of all access charges to rural LECs. Over the course of a few months, Qwest adopted the same self-help position as AT&T, and their respective traffic volumes reverted to their historical norms.

These forms of routing abuse constitute phantom traffic as much as stripping ANI or falsifying CN records. The Commission should make clear that this form of access evasion is

equally unlawful.

III. THE COMMISSION SHOULD ADOPT SEVERAL ADDITIONAL RULES TO STOP PHANTOM TRAFFIC

The NPRM correctly identifies some of the primary causes of phantom traffic – the failure to produce or transmit CPN, the inappropriate insertion of CN, and the stripping of signaling data. Its proposed rules are effective in addressing these sources of phantom traffic. As discussed below, however, the Commission's proposed rules do not adequately address instances where traffic is incorrectly rated or routed, even though it MAY contain the correct CPN. It is also advisable to take additional steps to ensure adherence to the Commission's new rules. This broader scope of phantom traffic must be addressed in the instant proceeding.

A. The Commission Should Prohibit Carriers From Routing Traffic In a Manner That Is Inconsistent With the LERG Routing Guide.

In its discussion of CN abuse, the Commission proposes a rule stating that: "Entities . . . are required to transmit the calling party's charge number (CN) in the SS7 CN field to interconnecting providers for any call where CN differs from CPN." NPRM at Appendix B, proposed rule § 64.1601 (a)(1); see also NPRM at ¶ 631. Aventure agrees that such a rule would ensure that the proper billing information is forwarded to the terminating LEC. However, this approach does not directly address fraudulent routing of traffic under the guise of "least cost routing," or directing long distance traffic to local interconnection trunks, regardless of whether the SS7 data is correct or complete. As discussed above, examples of the former include Qwest's apparent routing of calls through wireless carriers, or to IXCs engaging in self-help. Examples of the latter include PaeTec's apparent practice of handing long-distance traffic to a Qwest tandem switch via PaeTec's local trunks, causing Qwest to terminate the traffic over Aventure's local trunks.

This type of abusive and highly inefficient routing has only one purpose – access charge avoidance. It also has one other common characteristic – all such routing schemes are inconsistent with the Telcordia LERG Routing Guide ("LERG"). The LERG (formerly "Local Exchange Routing Guide") provides detailed information regarding points of termination, vertical and horizontal coordinates that determine rating for interstate and intrastate traffic, and instructions regarding the trunk groups that should be used to transport and terminate calls. Requiring compliance with the LERG will prevent routing abuses, and will address a critical source of phantom traffic that is not otherwise addressed in the NPRM.

B. The Commission Should Declare That Any Actions By Carriers That Result In the Deletion Or Substitution of Routing Data, or Traffic Routing Inconsistent With the LERG Routing Guide, Constitute Unreasonable Practices, In Violation of Section 201 of the Communications Act.

In addition to the rules proposed in the NPRM, and mandatory adherence to the LERG Routing Guide, as discussed above, the Commission should issue a declaratory ruling that engaging in phantom traffic generation constitutes a unreasonable practice, in violation of § 201(b) of the Communications Act. Such a declaration would facilitate enforcement actions by carriers harmed by such practices, either before the Commission or before a state or federal court.

C. The Commission Should Require Officers of Transiting Carriers to Confirm In Sworn Statements That Their Companies Are Not Knowingly Deleting or Changing Routing Data.

In order to ensure compliance with the rules that the Commission will adopt as a result of this proceeding, Aventure urges the Commission to include a requirement that an officer of the company file annually with the Commission a sworn statement that the carrier is complying with the Commission's rules. As noted below, this has become a common practice adopted by the Commission to ensure compliance with particularly important rules and policies.

For example, the Commission imposes such obligations on carriers that file customer proprietary network information ("CPNI") reports:

> **§ 64.2009 Safeguards required for use of customer proprietary network information.**
>
> (e) A telecommunications carrier must have an officer, as an agent of the carrier, sign and file with the Commission a compliance certificate on an annual basis. The officer must state in the certification that he or she has personal knowledge that the company has established operating procedures that are adequate to ensure compliance with the rules in this subpart. The carrier must provide a statement accompanying the certificate explaining how its operating procedures ensure that it is or is not in compliance with the rules in this subpart. In addition, the carrier must include an explanation of any actions taken against data brokers and a summary of all customer complaints received in the past year concerning the unauthorized release of CPNI. This filing must be made annually with the Enforcement Bureau on or before March 1 in EB Docket No. 06-36, for data pertaining to the previous calendar year.

The Commission also imposes such an attestation obligation on IXCs that are subject to the Commission's geographic rate averaging requirements:

> **§ 64.1900 Non-dominant interexchange carrier certifications regarding geographic rate averaging and rate integration requirements.**
>
> (a) A non-dominant provider of interexchange telecommunications services, which provides detariffed interstate, domestic, interexchange services, shall file with the Commission, on an annual basis, a certification that it is providing such services in compliance with its geographic rate averaging and rate integration obligations pursuant to section 254(g) of the Communications Act of 1934, as amended.
>
> (b) The certification filed pursuant to paragraph (a) of this section shall be signed by an officer of the company under oath.

Clearly, the Commission has found such officer attestations to be important tools in ensuring compliance with its rules in other context. Given the scope and economic impact of the phantom traffic problem, this level of certification is imperative to ensure compliance with new rules designed to stop the practice.

IV. CONCLUSION

For the reasons discussed herein, Aventure requests that the Commission adopt the above-described rule changes to put a stop to phantom traffic.

Respectfully submitted,

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